REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on March 1, 2006, and the references cited therewith.

Claim 18 is amended to be consistent with the language used in claim 9, and claims 1-21 remain pending in this application.

Specification

The Office Action indicates that the title of the invention is not descriptive. Applicant has amended the title to read -- SELECTABLE COMMUNICATION CONTROL BETWEEN DEVICES COMMUNICATING USING A SERIAL ATTACHED SCSI (SAS) PROTOCOL--. Accordingly, applicant submits that the new title is sufficiently descriptive and requests that this objection be withdrawn.

'102 Rejection of the Claims

Claims 1-3, 9 and 18 were rejected under 35 USC ' 102(e) as being anticipated by U.S. Publication 2005/0066100 to *Elliott et al.* ("Elliott"). Applicant respectfully traverses this rejection.

Applicant respectfully points out that the Office Action fails to establish a *prima facie* rejection over Elliott. In the explanation of how the features of the claimed invention are anticipated by Elliott, the Office Action makes numerous references to "obvious features" of the system disclosed by Elliott. In particular, the Office Action states that the claimed "selectable communication control" is an "Obvious feature of 217 & 240 where selective connections for communication are made." The Office Action also states that the claimed "zone" and "designating a zone" are an "Obvious feature of STORAGE TREE & other devices connected to PHYS." Thus, the Office action appears to rely on principles of obviousness in rejecting these claims over Elliott, which indicates that these features are not disclosed in Elliott. Accordingly, applicant requests that the rejection of claims 1-3, 9 and 18 under 35 U.S.C. 102(e) be withdrawn. Moreover, the Office Action relies on principles of obviousness without providing adequate motivation needed to establish why these features would have been obvious to one of ordinary skill in the art at the time the invention was made.

Applicant further submits that Elliott fails to disclose or suggest "selectable communication control between at least a first device and at least a second device," as recited in independent claim 1. As described in the present specification (see p. 7, lines 20-21), "selectable communication control" means selecting a level of communication allowed between one device and another (e.g., between an initiator device and a target device communicating using a SAS protocol). One example of such a selection may include restricting access of one device to another device, for example, by restricting access to read only access (see p. 7, lines 21-23).

In contrast, Elliott discloses a system having storage subsystems (e.g., subsystem 400) including expanders (e.g., expanders 410, 425, 230, 435) that merely control routing to other expanders. The Office Action appears to suggest that the routing tables 217 and routing controller 240 within an expander 410 somehow teach or suggest "selectable communication control." In the system of Elliott, the expander 410 includes routing tables 217a, 217b, 217c for respective phys 215a, 215b, 215c and the routing tables include route entries 230a, 230b,...230n, indicating SAS addresses that are enabled for the respective phy (see Elliott, ¶0020). The route tables are used by phys that provide an interface to another expander (see Elliott, ¶0024) but are not used by phys that provide direct routing to a storage device or end device (see Elliott, ¶0022). The routing controller 240 allocates and remaps the route entries in each of the tables as desired (see Elliott, ¶0020) and accesses route tables during transfers of information and routing of read/write requests (see Elliott, ¶0025). The routing of read/write requests through an expander 410 to other expanders is not the same as "selectable communication control" between devices. Routing control merely involves the paths taken by the read/write requests and does not select a level of communication allowed between devices (e.g., between initiator and target devices communicating using a SAS protocol). Thus, neither the route tables 217, nor the routing controller 240, provide such selectable communication control between devices.

A distinction between routing control and selectable communication control may also be illustrated using the present application. As illustrated in an exemplary embodiment in the present application, an expander 106a may include both routing control circuitry 316 and communication control circuitry 120a. Although the claimed invention is not limited to an expander including "routing control circuitry," this embodiment illustrates that the claimed

"selectable communication control" controls communication between devices in a way that may not be accomplished by mere routing control.

Moreover, nothing in Elliott teaches or suggests that the SAS controller 405 (or initiator 210) may have different levels of communication with different target devices (e.g., storage devices SDA, SDB,...). In particular, nothing in Elliott suggests that the routing controller 240 may somehow selectably change the route tables 217 to select a level of communication between the SAS controller 405 (or initiator 210) and any of the target storage devices (e.g., by restricting access to a storage device by the SAS controller 405). Even if the routing controller 240 and route tables 217 in an expander 410 were able to restrict access to a particular storage device, it appears that this access would be restricted for all SAS controllers or initiators that communicate through that expander 410. Thus, the route tables 217 and routing controller 240, alone, merely control routing and do not appear to be capable of selecting a level of communication allowed between devices (e.g., initiator devices and target devices).

Because Elliott does not disclose "selectable communication control" between devices, applicant submits that Elliott does not anticipate independent claim 1 or the claims dependent therefrom. For this additional reason, applicant requests that the rejection of claims 1-3 under 35 U.S.C. 102(e) over Elliott be withdrawn.

Applicant further submits that Elliott fails to disclose or suggest "designating a zone" and controlling communication between a device in the zone and at least one other device, as recited in independent claims 9 and 18. As described in the present specification (see page 4, lines 15-17), communication between initiator devices 102a-c and zones 180a-c may be controlled, for example, by restricting access of an initiator device to a specified zone.

In contrast, Elliott discloses a system having storage subsystems including storage trees with expanders that control routing of read/write requests to the storage trees. Elliott does not disclose designating zones. The trees are not "designated zones" but are a result of the physical arrangement of storage devices coupled to expanders. Elliott never discloses or suggests designating some subset of the storage devices within a tree. As mentioned above, it appears that a SAS controller 405 (or initiator 210) communicates with all of the target storage devices in a subsystem, without the ability to select a level of communication (e.g., by limiting access) between the SAS controller 405 and a particular subset of storage devices.

Because Elliott does not disclose "designating a zone" and controlling communication between a device in the zone and at least one other device, applicant submits that Elliott does not anticipate independent claims 9 and 18, or the claims dependent therefrom. For this additional reason, applicant requests that the rejection of claims 9 and 18 under 35 U.S.C. 102(e) over Elliott be withdrawn.

'103 Rejection of the Claims

Claims 4, 10-12 and 19-21 were rejected under 35 USC ' 103(a) as being unpatentable over Elliott. Applicant respectfully traverses this rejection.

The Office Action states that "the Elliott system clearly utilizes and shares communication bandwidth between subsystems of the system" and therefore "it would have been obvious... to come up with the claimed invention form[sic] the Elliott's system." Applicant respectfully disagrees with this conclusion. Dependent claim 4 recites that "said selectable communication control comprises allocating bandwidth of at least one selected path between at least said first device and at least said second device." Thus, "allocating bandwidth" is recited as one way in which communication between devices is selectably controlled. The mere fact that a system may utilize or share bandwidth does not make it obvious to allocate bandwidth, especially as a form of selectable communication control between devices. For the reasons stated above in connection with claim 1, Elliott does not disclose "selectable communication control" between devices. Moreover, nothing in Elliott suggests the desirability of "selectable communication control" between devices, much less "selectable communication control" that comprises "allocating bandwidth of a selected path" between devices. As mentioned above, the expanders in Elliott merely use the route tables to route read/write requests to other expanders.

With respect to claims 10-12 and 19-21, the Office Actions suggests that "restricting access" is well known. In support of an obviousness rejection, the office may not rely on conclusory statements that claimed features are "common knowledge" or "well known" as a substitute for evidence establishing a motivation to modify the prior art. See In re Lee, 61USPQ2d 1430 (Fed. Cir. 2002); See also MPEP 2144.03. Dependent claims 10-12 and 19-21 recite "restricting access" as one way of "controlling communication" between at least one device in a zone and at least one other device. For the reasons stated above in connection with

independent claims 9 and 18, Elliott fails to disclose or suggest this manner of "controlling communication" between devices. Moreover, nothing in Elliott suggests the desirability of "controlling communication" between at least one device in a zone and at least one other device, much less "controlling communication" by "restricting access" of the other device to the device in the zone. As mentioned above, the expanders in Elliott merely control routing to other expanders coupled to storage trees and do not restrict access between the SAS controller 450 or initiator 201 and any zone(s) of storage devices.

Because Elliott fails to teach or suggest "allocating bandwidth" or "restricting access" as ways to control a level of communication between devices, applicant submits that claims 4, 10-12 and 19-21 would not have been obvious over Elliott. Accordingly, applicant requests that the rejection of claims 4, 10-12 and 19-21 under 35 U.S.C. 103 be withdrawn.

Claims 5-8 and 13-17 were rejected under 35 USC ' 103(a) as being unpatentable over Elliott in view of U.S. Publication 2005/0149793 to *Beckett, et al.* ("Beckett"). Applicant respectfully traverses this rejection.

Applicant submits that claims 5-8 and 13-17 are patentable for the same reasons discussed above. Moreover, applicant submits that Beckett is disqualified as prior art under 35 U.S.C. 103(c). The published patent application to Beckett was assigned to Intel Corporation, the assignee of the present application, by an assignment recorded at Real/Frame 016193/0092. Therefore, applicant submits that the subject matter of Beckett and the claimed invention were, at the time the claimed invention was made, owned by or subject to an obligation of assignment to Intel Corporation. For these reasons, applicant requests that the rejection of claims 5-8 and 13-17 under 35 U.S.C. 103(a) be withdrawn.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (603-668-6560) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-2121.

Respectfully submitted,

PAK-LUNG SETO

By his Representatives,

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Date 5-1-06

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 1 day of May, 2006.

Kyrstin Ryan

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